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HOSPITAL NOTES AND MEMORANDA.

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*Further Observations in regard to the Cerebro-spinal Affection occurring
in and around Newbern, N. C.*

IN the previous numbers of the JOURNAL, I have given some brief notes of individual cases of this affection as it presented itself in the wards under my charge, during the prevalence of the disease as an epidemic; these notes are necessarily fragmentary and imperfect, obtained, as they were, by snatches, in such intervals of leisure as could be found amid the pressing duties of a crowded military hospital. It is proposed, in the present paper, to offer some considerations as to the probable origin and nature of the epidemic in question, with a brief summary of such facts in regard to it as I have been able to collect.

The town of Newbern is situated upon the river Neuse, at its junction with the Trent, some forty miles from its entrance into Pamlico Sound. Both rivers are navigable for a few miles above their point of junction. There are no tides at this point, strictly speaking, but the depth of the water is greatly affected by the force and direction of the wind. The town itself is built on a flat and sandy soil, raised but a few feet above the water. The climate is generally mild and salubrious in winter and spring; hot, humid, and subject to malarial influences in summer and autumn. The country around is level, alternating with sandy plains and swamps for the distance of a mile or more from the outskirts of the town, beyond which begins the endless pine forest, almost impenetrable, with marshes and tangled undergrowth. The troops are encamped mainly just outside the town, in the driest spots practicable, with due reference to the salient points of attack and defence. They are sheltered partly in tents, partly in barracks, constructed in the manner hereafter described. The regiments most affected by the epidemic under consideration, were the 44th, 45th and 51st Mass. and the 10th Connecticut. The three first are composed of nine months' men, and had been stationed at Newbern less than two months when the

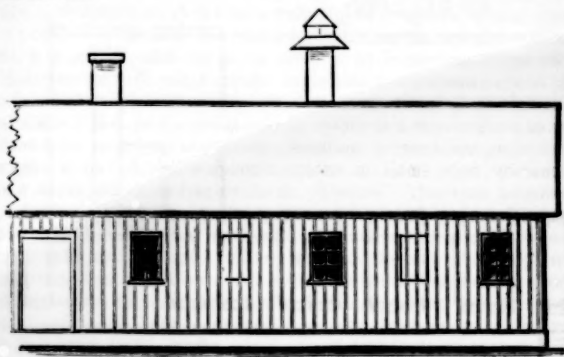
disease appeared; the last-named is a three years' regiment, which had remained in or near its present locality ever since the capture of the town, by the troops under Burnside, a year ago. These regiments were quartered in barracks. Isolated cases of the disease also occurred in Wessell's Brigade, which came down from Suffolk just prior to the expedition to Goldsboro', in December, and in some of the other regiments sheltered in tents, among which were the 3d, 5th, 8th and 46th Massachusetts. The 24th Mass., an old regiment quartered in barracks, near the 44th, so far as I can learn escaped. This last, together with the 10th Conn., left the Department in the latter part of January, to join the expedition to Charleston, which was before cases of the disease became multiplied.

Of the regiments I have designated, the 44th Mass. and 10th Conn. were located on the right bank of the Neuse, some half a mile beyond the town, on a sandy and sterile plain, elevated perhaps five or six feet above the level of the river. The 44th, which suffered most, was nearest the bank; quite near the camp lay a couple of marshy bogs, small in extent, through which flowed a sluggish stream to the river. Water for drinking and culinary purposes was obtained mainly from wells sunk in the vicinity of the camp. It was brackish and unpalatable. The river water was also, to some extent, used.* Beyond and above the camp to the edge of the woods, as well as opposite towards the river Trent, a broad sandy plain stretches out to the extent of a mile or so. The woods in this direction have been extensively cut off, since the occupation of the town, for the better protection of the place. The camps of the 45th and 51st Mass. were similarly located on the right bank of the Trent, two miles above the town, on an alluvial sandy soil and flat surface, dotted with numerous small pools of stagnant water, some of which were embraced within the lines of the camp. The ground is here raised some twelve or fifteen feet above the river. The water, used in camp, was mostly obtained by means of a barrel sunk in the ground by the river's edge. From the river at this point to the swampy woods beyond, is perhaps three quarters of a mile. Over this plain, immense and barren, the winds have free sweep, bringing, in a dry time, a simoom of sand upon the camps.

The barracks for the sheltering of a portion of the regiments, as above named, were built late in the autumn, and are alike in their dimensions and plan of construction. They were made of green stuff—hard pine mostly—the logs being taken newly cut from the forest, or drawn out from the water, where they had been lying for a few weeks, sawn into joists and boards, and used in the fabrication of all parts of the building. Between huts of such material and tents for the winter, there was no alternative, dry lumber being

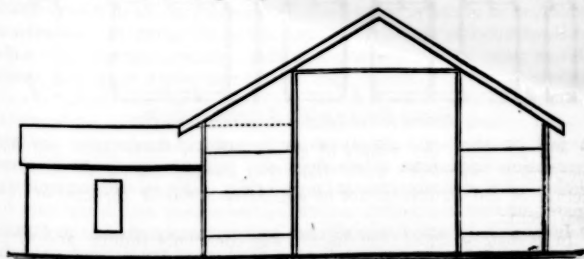
* An analysis of the water obtained from a well in the centre of the town—used for culinary and drinking purposes at the Stanly Hospital—showed it to be strongly impregnated with lime.

a thing unattainable in the Department. Thus constructed, they were necessarily cold and damp, and redolent of pitch and paludal moisture. The regimental barracks were commonly built in a continuous line, not unlike a rope-walk in appearance, but sometimes in the form of a right angle, and are divided off into company compartments—each compartment being sixty feet in length by twenty-four feet in width, and eight and a half in height to the plate under the eaves, and having a pitch to the roof of three feet in five. A side elevation of a portion of one of these barracks is shown in the annexed cut.



Side elevation of a portion of barracks for one company.

Ranged around the walls, and projecting longitudinally into the apartment, are the bunks for the men, in three tiers, each bunk being six and a half feet in length by four feet in width, and intended for

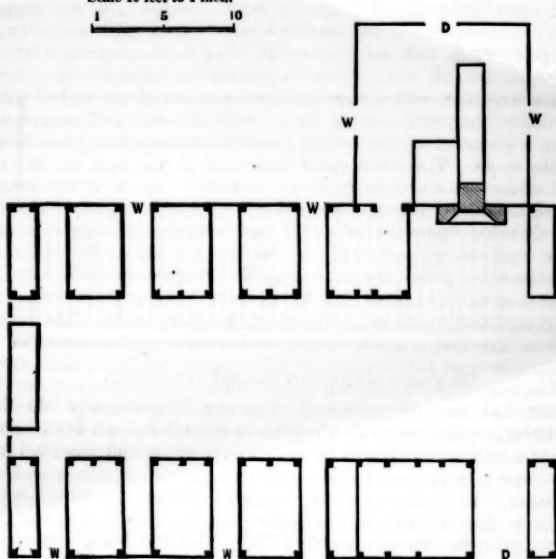


End section of barracks.

the accommodation of two men. The lowest is one foot above the floor; the perpendicular space between is three feet and the lateral space two feet. In these last-named spaces are the windows. Air

is admitted through openings near the floor, between the bunks, and vented through occasional apertures at the ridge.* There is a fireplace in the side of each apartment, at about its centre, at which point the company kitchen extends out at right angles, furnished with oven, range, &c. These apartments are intended each for the occupancy of a company of about one hundred men—the allowance of air, in which case, is but about one hundred and eighty cubic feet to each man. Practically, the average number of men to each company does not much exceed sixty. In the best of circumstances,

Scale 10 feet to 1 inch.



Ground-plan of a portion of company barracks.

it will be seen, the supply of air is entirely inadequate and the ventilation imperfect; while light and warmth, owing to the projection of the bunks, cannot be generally diffused throughout the apartment.

In its mode of attack, the disease was commonly sudden and without premonition, the patient, for the most part, continuing on duty and making no complaints till the very day of his seizure. Some of the most violent cases thus commenced; Case XII., previously

* Additional openings, for both light and air, have been made since these buildings were first occupied by the troops.

cited, is in point, where the soldier appeared with his company at the evening dress parade, complained of chilliness, headache, &c., during the night, and was dead within thirty-six hours following. And the subjects of the disease, in most cases, were those previously in the fulness of robust health—between the ages of 18 and 24—who had endured hardships and exposures with impunity.

The *symptoms* were, at the first, headache, referred oftentimes to the back part of the head particularly, with dizziness—pain in the back and limbs, this last occasionally of an excruciating character—with sometimes rigors, and nausea and vomiting. Chilliness, rather than a well-defined chill, characterized the accession of the disease. A peculiar stiffness in the muscles of the face and neck was often an early symptom; this would be followed by local spasms, perversion of vision, &c. In some cases the initiatory symptoms were those of a severe cold, with a disposition to paralysis of the tongue and a portion of the muscles of the face. With this the respiration would be difficult and irregular, giving occasion to fear a congestive attack of the lungs. There was often tenderness at the nape of the neck and along the spine early in the disease. The skin was usually moist, but hot. The face was suffused—often of a dusky hue—and the features distorted in the manner before mentioned—the eyes congested and suffused. There was not, for the most part, active delirium—but perversion of intelligence rather, and dulness and indifference to outward objects, from which condition the patient could be roused and made to answer questions consciously. The tongue had, at the first, a white creamy coat, which, in the course of the disease, became yellowish or brown at centre and base, more rarely dry and cracked towards the close. There was loss of appetite, but usually not very urgent thirst. The heart's action was irregular, sometimes tumultuous, to which the pulse did not always respond, being mostly accelerated but not strong—occasionally intermittent. The bowels were regular, or inclined to diarrhoea and costiveness by turns. Petechiæ were not an unfrequent manifestation—in appearance almost identical with the true typhus eruption, and like that seen upon every part of the body except the face—persistent on pressure, varying in hue from the darkest aspect of measles to that of the true petechial spots imbedded in the skin. Purpural spots, abundant and of large size, were sometimes present, and were always a grave symptom. There was no marked tenderness of the epigastrium or abdomen. In the cases of longer duration, there was in the last stages sordes on the teeth and lips, and involuntary evacuations of urine and fæces. The patients often die without much symptoms of exhaustion. The decubitus was mainly on the side, with the head not unfrequently thrown back—the neck rigid and stiff—a partial opisthotonos. There was uniformly great restlessness and jactitation. As an accompaniment and occasionally a sequel to the disease, iritis was several times observed. So, also,

was synovitis—and, in one instance, pericarditis. The above are among the more prominent and constant symptoms—but there was a considerable diversity in the manifestations of the disease during its progress, whether towards a favorable or fatal result; in no one case do I remember to have seen even a majority of those I have enumerated present.

Singular and anomalous symptoms were sometimes noticed. Dr. Jewett, Surgeon of the 51st Mass. Reg't, to whom I am indebted for a clear and able account of the disease, as it occurred in the troops under his care, reports that, "in a single case, a pleasing delirium was noticed, with loquacity and decidedly erotic desires, accompanied with priapism more or less extensive during the greater part of the disease." This peculiarity, he adds, was noticed in about one third of his cases. Dr. Cowgill alludes to the same fact. Dr. Jewett noticed the decubitus upon the dorsum among fourteen cases which occurred in the 51st Mass. Regt. in but a single instance. "In all the others," he observes, "the patients lay upon the side till near the close of life." "In a few cases, and those the most severe ones," he also remarks, "no moan or sound of any kind escaped the patient, but there was a fearful restlessness which ceased only at death; in others there was much moaning." Stiffness of the muscles of the neck and back, or some perverted action of the muscles of the face, before alluded to, amounting at times to spasm, was almost pathognomonic. In some form, this affection was present in nearly all the cases sent in by Dr. Ware; it was common in those treated in Academy Hospital. Dr. Jewett speaks of it as being present in fully one third of the cases which came under his observation, "there being," as he says, "more or less stiffness of the muscles of the neck and back, with opisthotonos—in one case paralysis of the glossopharyngeal nerve, and in two others eversion of the eyes and occasional squinting."

The *duration* of the affection varied from a period of less than thirty-six hours, to that of three, four or six weeks, and even longer. According to my own observation, the more usual duration has been from three or four to seven days. Of the twenty-one fatal cases, recorded in the preceding pages, death took place—

- In 2 cases on the 2d day;
- In 5 cases on the 3d day;
- In 5 cases on the 4th day;
- In 1 case on the 5th day;
- In 1 case on the 6th day;
- In 1 case on the 8th day;
- In 1 case on the 10th day;
- In 1 case on the 14th day;
- In 2 cases on the 22d day;
- In 1 case on the 34th day;
- In 1 case on the 36th day.

Of the five cases mentioned by Dr. Kneeland, which occurred among the members of the 45th Mass. Reg., four proved fatal within thirty-six hours from the onset of the disease, and one on the fourth day.* And of fourteen deaths, mentioned in the communication from Dr. Jewett, the greatest duration of the disease was twenty-three days, the least one day.†

The *age*, when it could be obtained, of the patients attacked, in the cases hereinbefore recorded, was found to vary from 17 to 31 years, in the proportion as follows, viz. :—

- In 1 case the age was 17 years.
- In 4 cases the age was 18 years.
- In 3 cases the age was 19 years.
- In 2 cases the age was 20 years.
- In 4 cases the age was 21 years.
- In 2 cases the age was 22 years.
- In 2 cases the age was 23 years.
- In 1 case the age was 27 years.
- In 1 case the age was 28 years.
- In 1 case the age was 31 years.
- In 1 case the age was 32 years.

Of Dr. Jewett's fourteen cases, the youngest was 16 years of age, the oldest 30 years; the average 20 years.

In regard to the *prognosis*, it was generally unfavorable. Of about forty cases received into the Stanly General Hospital—and which were regarded as genuine examples of the disease—twenty-eight proved fatal. Of the five cases mentioned by Dr. Kneeland, all died.‡ And of the fourteen communicated by Dr. Jewett, all were fatal. Dr. Cowgill has reported five well-authenticated cases of recovery, out of twelve treated in the Academy Hospital, under his charge—being the largest ratio of recoveries in proportion to the number of cases received.

[To be continued.]

ON THE CLASSIFICATION OF MAMMALIA.

BY PROFESSOR T. H. HUXLEY, F.R.S.

THE battle-ground of classification is now confined to the orders of Monodelphia. Some will not admit the order of Toxodontia; by others the Primates are divided into Quadrumana and Bimana; again, others unite Sirenia and Cetacea. But it is useless to enter upon this ground, and we must ascertain how these orders

* See Dr. Kneeland's letter to the Surgeon-General of Massachusetts, in the *Boston Medical and Surgical Journal*, March 12th, 1863.

† A well authenticated case, under the care of Dr. Haddock, has just proved fatal on the 84th day! Unfortunately, no *post-mortem* investigation could be obtained.

‡ Three of these were treated in regimental and two in general hospital. See Dr. Kneeland's letter, before referred to.

may be arranged, by clear and definite characters, into larger divisions. The earliest attempts at this were made by Sir Everard Home, but his definitions were very rough and are not worth mentioning. He spoke of the characters of the placenta in different mammals. The next step was taken by Mr. Waterhouse, who was struck by the form of the brain in Mammalia, and divided the Monodelphia or Placentalia into two groups.

| | | |
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| PLACENTAL MAMMALIA. | I. Those possessing a smooth brain. (Waterhouse.) | |
| | <i>Lissencephala</i> (Owen) | Cheiroptera. |
| | | Insectivora. |
| | | Rodentia. |
| | | Edentata, or Bruta. |
| | II. Those having a convoluted brain. (Waterhouse.) | |
| | <i>Gyrencephala</i> (Owen) | Quadrumana. |
| | | Carnivora. |
| | | Cetacea. |
| | | Proboscidea. |
| | | Peristodactyla. |
| | | Artiodactyla. |
| | <i>Archencephala</i> (Owen) ...Homo. | |

Mr. Waterhouse does not, however, mention Man. After that, in 1844, Milne-Edwards proposed another classification, based on the characters of the placenta, having, however, nothing to do with Sir Everard Home's. He pointed out four, or rather three, different forms of placenta. In the first the villi are scattered over the chorion; the second form has these united in knobs (cotyledons). The first is a *diffuse* placenta; the second a *cotyledonary* one; but in reality they are the same form modified. In the third kind the villi form a ring round the ovum, constituting a *zonary* or *zonular* placenta; and lastly, in the fourth it is cake-like, and is termed a *discoidal* placenta. This exists in Man, Apes, Insectivora, Cheiroptera, and Rodentia. The Carnivora possess a zonular placenta. In the rest it is either diffuse or cotyledonary. (In Hyrax it simulates a zonular form.) In 1859, Professor Owen, in a paper read before the Linnæan Society, and printed in that Society's Proceedings for the year, returning to the cerebral characters, put forth another classification of Mammalia, calling Mr. Waterhouse's smooth-brained mammals *Lissencephala* (as shown in the preceding table); those with convoluted brains, *Gyrencephala*, and for Man he formed the subclass, *Archencephala*. Now here are three classifications; which of them is the most worthy of adoption? That is to say, which explains, in the clearest and most definite way, the anatomical characters of the groups which it contains? Prof. Huxley began with the last mentioned. First of all, do the differences said to exist between the brains of *Archencephala* and *Gyrencephala*, and of these and *Lissencephala*, really exist? We shall see; and it is better to give Professor Owen's own words to avoid mistakes. These are the characters he gives to his *Lissencephala*:—"The next well-marked

stage in the development of the brain is where the corpus callosum is present, but connects cerebral hemispheres as little advanced in bulk or outward character as in the preceding sub-class (*Lyencephala* containing *Implacentalia*), the cerebrum leaving both the olfactory lobes and cerebellum exposed, and being commonly smooth, or with few and simple convolutions in a very small proportion composed of the largest members of the group. The mammals so characterized constitute the sub-class *Lissancephala*."

Professor Huxley then exhibited the brains of an anteater and a capybara (both *Lissancephala*); they were abundantly convoluted. He then showed the brain of a genet (*Viverra*), nearly quite smooth, as is also that of marmoset monkeys, these being placed among Professor Owen's *Gyrencephala*, which he thus characterizes:—

"The third leading modification of the mammalian cerebrum is such an increase in its relative size that it extends over more or less of the cerebellum, and generally more or less of the olfactory lobes. . . . The superficies is folded into more or less numerous gyri or convolutions, whence the name *Gyrencephala*, which I propose for the third sub-class of Mammalia."

It is a puzzling thing to appreciate the value of sub-classes placed in such a position. How can a *Lissancephala* have a convoluted brain and a *Gyrencephala* a smooth brain? These distinctions may do as far as general characters are concerned, but can never form the definition of a sub-class. And now for Professor Owen's last sub-class, which he defines in the following manner:—

"In Man the brain presents an ascensive step in development higher and more strongly marked than that by which the preceding sub-class was distinguished from the one below it. Not only do the cerebral hemispheres overlap the olfactory lobes and cerebellum, but they extend in advance of the one, and further back than the other. Their posterior development is so marked that anatomists have assigned to that part the character of a third lobe. It is *peculiar to the genus Homo*, and equally peculiar is the posterior horn of the lateral ventricle and the '*hippocampus minor*,' which characterize the hind lobe of each hemisphere. . . . I am led to regard the genus *Homo* as not merely a representative of a distinct order, but of a distinct sub-class of the Mammalia, for which I propose the name *Archencephala*."

To all who understand plain language, said Prof. Huxley, the meaning of this paragraph is quite clear. When a man gives certain characters as peculiar to one group, he must mean that they are found in that and no other. The lecturer then proceeded to put before his audience facts in opposition to Professor Owen's statements. First, the backward extension of the posterior or third lobe further than the cerebellum is anything but *peculiar* to Man, as Professor Huxley showed by the cast of the interior of the skull of a gorilla (as everybody knows, the cast of the interior of the skull in all

mammals gives a very good and exact idea of the form of the brain, as in them this organ fills up completely the cavity of the skull); and placing it so that the tentorial plane was horizontal, he showed how the cerebellum was completely covered by the posterior lobes, so that a plane object held perpendicularly to these cannot touch the cerebellum. It is quite easy to demonstrate this fact with the skull alone. Drawing a line from the lateral sinus to the margin of the pars petrosa—attachments of the tentorium—the overlap is then perfectly clear. And when one comes to the lower apes, baboons, and others, it is obvious on examination that the cerebellum is overlapped to a far greater extent than in Man; and, as T. Geof. St. Hilaire showed long ago, this attains a maximum degree of development in the *Chrysothrix*—small American monkeys. The same occurs with the posterior cornu, which in Man is sometimes very short, and with the “hippocampus minor”—both being extremely variable. Where the posterior lobe and its posterior cornu exist, the hippocampus minor is always present; it is a prominence on the floor of the posterior cornu, formed by a pushing in, as it were, of a particular sulcus on the inner and under surface of the posterior lobe parallel with the horn. Now, all these structures certainly exist in many apes. Mr. Marshall has shown them in the chimpanzee, Dr. Rolleston in the orang, in which these structures are very largely developed, and, as Prof. Huxley showed with specimens he had, larger comparatively than in some men. The same is the case with the gorilla, and by far the largest number of apes. The lecturer said that he could not understand how, when these characters, said to exist, do not, the two sub-classes, Gyrencephala and Archencephala, can be separated; and surely, even if these did exist, no sound zoölogist would make such variable characters the basis of a classification, these being the last structures in the world to base definition on. Thus the sub-classes Gyrencephala and Archencephala fall to the ground. The structures above referred to vary so much, that in two genera of apes—the South American *Myrcetes*, and, as Mr. Flower has recently shown, the Gibbons (*Hylobates*)—the cerebellum projects slightly; and in the last, one of the genera of the man-like apes, the cerebellum is so large that it projects not only posteriorly, but also laterally.

Let now more positive grounds occupy our time. Milne-Edwards laid great weight on the form of the placenta, but not on its structure—a much more important if not valid character, forming the basis of a classification which is at present the most certain. In all placental mammals examined, the formation of the placenta is preceded by a swelling and increased vascularity of the walls of the uterus, forming the “maternal placenta,” into whose depressions and sinuosities the villi of the foetal placenta dip and interlock; this takes place so firmly in some mammals that at birth the maternal comes away with the foetal placenta. These may thus be said to have

a *coherent placenta*; while all the rest, in which the foetal placenta alone comes away, have an *incoherent placenta*. As far as our present knowledge goes, this classification holds good for all, and moreover does not break natural affinities. Some say that it is unnatural because it groups together very dissimilar animals, such as men, apes, bats, rodents, hedgehogs, and shrews; but anybody who has studied the so-called *Quadrumana* is well aware that in them forms exist quite as low as any of these, and differing extremely in many characters one from another—from the gorilla, with a dentition, uterus, and many other organs similar to those of men, tailless and walking nearly erect, to the lemur, possessing a totally different dentition, walking on all fours, and provided with a long tail; and yet nobody has ever doubted that it is one of the *Quadrumana*, and certainly not the lowest, for in them we have such animals as the tarsius, the rodent-like *cheiromys*, and the bat-like *galeopithecus*, feeding on insects, and possessing an intelligence inferior to that of many mammals not belonging to that group. Another question remains. Are we justified in classifying men and monkeys together? The comparison of the human skeleton with that of a gorilla, an orang, a chimpanzee, or any of the higher apes, will answer the question, and show at a glance the great resemblance and similarity there is between them. Now the gorilla, for example, is admittedly placed in the same order as the lemur, the *cheiromys*, and the *galeopithecus*, which differ, as we have seen, far more from it than it does from man. Thus we cannot but place them in the same order, or else all our notions of affinities and resemblances fall to the ground. The following is a table giving the best classification of mammals we possess:—

M A M M A L I A .

IMPLACENTALIA.

Ornithodelphia.
Monotremata.

Didelphia.
Marsupialia.

PLACENTALIA.

Monodelphia.

Placentæ Incoherent.

Edentata.
Sirenia.
Toxodontia. (?)
Proboscidea.
Peristodactyla.
Artiodactyla.
Cetacea.

Placentæ Coherent.

| | |
|--------------------|---------------------|
| <i>Pl. zonary.</i> | <i>Pl. discoid.</i> |
| Carnivora. | Insectivora. |
| | Rodentia. |
| | Cheiroptera. |
| | Primates. |

[*London Lancet.*

PLEURO-PNEUMONIA has again appeared as a disease among cattle in some parts of Massachusetts. Twenty-four cows, valued at \$620, were lately slaughtered in Waltham on account of being affected with it.

Bibliographical Notices.

Chemistry. By WILLIAM THOMAS BRANDE, D.C.L., F.R.S.L. & E., of Her Majesty's Mint. Member of the Senate of the University of London, and Honorary Professor of Chemistry in the Royal Institution of Great Britain; and by ALFRED SWAINE TAYLOR, M.D., F.R.S., Fellow of the Royal College of Physicians of London, and Professor of Chemistry and Medical Jurisprudence in Guy's Hospital. Philadelphia: Blanchard and Lea. 1863. 8vo. Pp. 696.

A NEED has been long felt by those engaged in instruction of a proper text-book on general chemistry. Hitherto the treatises employed for that purpose have been either too simple and elementary, or too condensed or extended, for any but the youthful beginner or the special student of the science. The masters of the art have seldom been willing to devote their pens to aught else than the cultivation of its special or higher branches, and when they have attempted to present a general view of its condition at the present time, the result has been a work too profound and technical for any but the most advanced scientific student. It is chiefly owing to the character of the text-books put into his hands during his collegiate or school training, that the medical student comes to his professional studies possessed, as it were, of a kind of antipathy to the practical pursuit of a branch of study he recognizes in the abstract as one of the most important. There is no course of lectures more faithfully attended or enjoyed than that upon chemistry, and yet none is so little accompanied by collateral study and reading, and consequently none so soon forgotten. This leads to constant regret in after life, and there is probably hardly a physician who does not many times a year wish himself once more a student, that he might study as he ought an art so indispensable at the present day to any but the most superficial knowledge of physiology, diagnosis and therapeutics. Seldom a day passes, the dispensing druggist will tell you, that he has not occasion to witness a display of this ignorance in the incompatible recipes presented to him by the patients of otherwise well-informed medical men, and very few would be able to judge by tests of the purity of the drugs they prescribe. This should not be; no physician should employ a remedy, with the qualities of which he is not fully acquainted. As it now is, we leave entirely to the druggist the selection and character of the means we employ against disease, and fortunate, although humiliating, for us is it, that he generally possesses the knowledge we are wanting in.

We have for a long time felt that the preparation of a proper chemical text-book for students would be time better spent than in the invention of a novel system of classification or the discovery of half a dozen new elements ending in *ium*, which are increasing in number about as rapidly as the asteriods. We believe this want has at last been satisfied in the book now before us, which has been prepared expressly for medical students by two of the most experienced teachers of the science in England. In the preface they state that their

"Intention in the preparation of this volume has been, not to furnish a Treatise on the Science, but to provide the student, and general reader, with a plain introduction to the subject. With ample materials at our disposal to produce two volumes in place of one, we have studiously endeavored to compress within these

pages, a selection of the more important facts and doctrines of Modern Chemistry. We have adopted for the explanation of these facts, that simple chemical language which has found acceptance in the schools and colleges of Great Britain, France, and Germany, as well as in the best treatises on the Science.

"In addition to the general properties of bodies, we have attached to the description of each substance, a summary of its most important characters, with an account of the special tests required for its detection. The student will thus have in this book a Manual of Practical Chemistry.

"Having been engaged in teaching Chemistry in this metropolis, the one for a period of forty, and the other for a period of thirty years, it has appeared to us that, in spite of the number of books already existing, there was room for an additional volume, which should be specially adapted for the use of students. In preparing such a volume for the press, we have endeavored to bear in mind, that a student in the present day has much to learn, and but a short time at his disposal for the acquisition of this learning. An eminent writer has truly observed, that the whole circle of the sciences is required to comprehend a single particle of matter; but *ars longa, vita brevis*. If a medical student has before him only a few years for acquiring a knowledge of at least eight sciences, the efforts of those who contribute to the literature of these sciences should be directed to the elucidation of the most important facts and principles, omitting altogether those details which are either of a controversial nature, or are not yet established on a satisfactory basis. In reference to this book, it may be considered by some, that we have assigned too little, and by others, too much, space to our subject. This, however, is a question of opinion, on which persons may reasonably differ. We have taken that which seemed to us to be the proper course; and we trust we have so dealt with the principles and practice of Chemistry, that the contents of this book will prove useful to the general as well as to the professional reader."

The work is divided into four parts. The first is a general introduction to the science, and treats of matter and its properties, &c. The second comprises a description of the metalloids, the third of the metals, and the fourth embraces organic chemistry. There are two features about it which might at first strike the reader as defects, but which in our estimation rather enhance its value, namely: an absence of any chapter on physics and of all illustrations. Enough of the former has been introduced in connection with the chemical descriptions of the various elements and bodies, and the student is properly referred to special text-books for the necessary information on pure physics. As to illustrations, if at all fully given, they would occupy more space in a handbook than their importance would justify. The student really does not need them. An entire course of elementary analysis may be satisfactorily conducted with only a few dollars worth of simple apparatus, and indeed any of the processes likely to be employed either by the student or physician in pathological chemistry or toxicological researches require only a few tubes and watch-glasses. The complicated machinery and imposing apparatus figured in the books are used only upon the lecture-table, and are more properly described in large treatises or in the illustrated catalogues of the dealers. The book is intended for hands too old to need the aid of pictures to awaken in them an interest, and we doubt not the text will prove so interesting to all who examine it that the figures will not be missed. In place of wood-cuts, however, the descriptions throughout the volume are drawn from common phenomena, and are novel, practical and unusually entertaining. The first part abounds in apt definitions of the terms applied to natural and chemical laws, and the whole introductory portion is clear, attractive, original and simple. We cannot do better than to

give brief extracts from each of the four divisions of the book, taken without reference to the merit of the selections.

In connection with spectral analysis, of which an extremely interesting account is given, we find, on page 58—

"Bunsen estimated that the amount of sodium which admitted of detection by prismatic analysis was the 195,000,000th part of a grain; of lithium the 70,000,000th; of potassium the 60,000th; of barium the same; of strontium the 1,000,000th; and of calcium the 100,000,000th of a grain!

"The delicacy of the sodium reaction accounts for the fact that all bodies, after a lengthened exposure to atmospheric air, show, when heated, the sodium line. Even ignited air and all kinds of dust show the yellow tinge of sodium. Fine platinum wire or foil, however clean, if exposed to air for a short time, has been observed to give a yellow color to flame, owing, as it is supposed, to the deposit upon its surface of sodium derived from the atmosphere. Three-fourths of the earth's surface are covered with sea-water, and the minutely diffused chloride of sodium may, it is supposed, be thus spread through the whole of the atmosphere. Lithium, which was supposed to be a rare metal, also appears by this mode of analysis to be very widely distributed. Bunsen found it in about an ounce and a half of the waters of the Atlantic Ocean; in the ashes of kelp from Scotland; the ashes of tobacco, of vine-leaves, and of plants growing on various soils. It was found in the milk of animals fed upon these crops, and it was detected by Dr. Folwarczny in the ash of human blood and muscular tissue. It has also been discovered in the residue of Thames-water, in Stourbridge clay and in meteoric stones. It is a curious fact that the intermixture of these alkaline metallic compounds does not materially interfere with the optical as it does with the common steps of a chemical analysis. Thus a drop of sea-water shows at first a sodium-spectrum; after the volatilization of the chloride of sodium—a calcium-spectrum appears, which is made more distinct by moistening the platinum wire with hydrochloric acid. By treating the evaporated residue of sea-water with sulphuric acid and alcohol, potassium and lithium-spectra are obtained. The strontium reaction is best procured by digesting the boiler-crust of sea-going steamers in hydrochloric acid, and employing alcohol as a solvent. By this process of analysis, most mineral waters are found to contain all the alkalies and alkaline earths excepting the compounds of barium.

"The different degrees of volatility in the alkaline metals are favorable to their detection in a state of mixture. Thus a solution containing less than the 600th of a grain of each of the following chlorides—potassium, sodium, lithium, calcium, strontium, and barium—was brought into the flame. At first the bright sodium line appeared, and when this began to fade, the bright-red line of lithium was seen, while at some distance from the sodium line the faint-red line of potassium came into view, and with this two of the green barium lines; the spectra of the potassium, sodium, lithium, and barium salts gradually faded away, and then the orange and green calcium lines showed themselves in their usual positions.—(*Phil. Mag.*, Aug., 1860, p. 106.)"

The seventeen chapters on the metalloids will be found to contain an unusual amount of matter, both new and interesting, and of great practical importance to the physician. The chapter on Waters is extremely valuable, and in it will be found the following relating to arsenic:—

"Chalybeate waters abound in the Rhine district, and they are also very numerous in France. In some of the waters of Aix-la-Chapelle, the iron is combined with the crenic and apocrenic acids. One curious fact connected with them is, that they generally contain traces of arsenic. This ingredient may be found in the mineral water itself, but more commonly in the sediment. In France, no fewer than forty-six waters, including the six springs of Vichy and the waters of Mont d'Or and Plombières, are thus impregnated with arsenic. The Vichy water is said to contain the 125th part of a grain of arsenic in a gallon.

"The tonic and other medicinal properties of these waters are now considered to be due, at least in part, to the arsenic which they contain. The Wiesbaden water, according to Dr. Hofmann, contains one grain of arsenic in 166 gallons (*Chem. News*, Aug. 11, 1860). The waters of Spa and Kissingen are also arsenical. The arsenic is probably in the state of arsenite and arseniate of iron, and is held dissolved in minute proportions by the carbonic acid of the water. It is precipitated in the sediment with oxide of iron. The arsenic has probably been derived from the decomposed iron-pyrites in the strata, and to this cause may be ascribed the presence of arsenic in some of the river waters of this country. It has been found in the water of the Whitbeck, in Cumberland, by Mr. Church (*Chem. News*, Aug. 25, 1860). We have detected it in the water of the Mersey, supplied to a large town, in the proportion of one grain of arsenic in 250 gallons, and Dr. Miller discovered arsenic in a potable water from Suffolk. Mr. D. Campbell and ourselves discovered this mineral in the sediment of some small streams of Derbyshire, and there is but little doubt that if waters traversing mineral districts were examined by chemists, with a view to its detection, arsenic would frequently be found, either in the water or in the sediment. We have detected arsenic in two ounces of dry Thames mud. Its alleged presence in the deposits of boilers may receive an explanation from these facts. It is not found in all chalybeate waters. We have made two analyses of 50 and 100 grains respectively of the ochreous deposit of the Tunbridge water without detecting any trace of arsenic, so that carbonated chalybeate waters do not necessarily contain this mineral.

"A carbonated chalybeate water is known, 1, by its inky taste; 2, by its giving, when boiled, a grayish-green deposit, which becomes ochreous on standing; 3, by its acquiring a pink or purple tint when tincture of galls is added to it; 4, by boiling it with a few drops of diluted sulphuric acid, and adding to it a solution of ferrocyanide of potassium, when Prussian blue is precipitated; 5, paper soaked in an infusion of rose petals, when dipped in this water, acquires a dark color (tannate of iron)."

In connection with the deodorizing power of charcoal, the authors say:—

"To this catalytic property may be ascribed the power which charcoal possesses of absorbing and removing foul effluvia (*see* p. 212). A small quantity of powdered charcoal shaken in a jar of air containing sulphuretted hydrogen gas, soon removes the smell. If water, containing sulphuretted hydrogen, is filtered through charcoal, it is speedily deodorized. The gas is first absorbed, and by a catalytic action the oxygen of the air unites to the hydrogen, while sulphur is deposited. The charring of the interior of a cask, intended to hold water for use at sea, has a similar influence on foul water put into it. Sulphuretted hydrogen is so completely removed, that the usual tests for the gas will fail to indicate its presence. Pans of powdered charcoal placed about a room in which there are foul effluvia, are thus efficacious in removing them. Putrescent animal matter is deprived of its offensiveness by covering it with powdered charcoal. If the charcoal should lose its power by long use, it may be easily restored by again heating it.

"Experiments on a large scale have been performed by Dr. Letheby and Mr. Haywood, in order to determine how far charcoal could be practically employed for destroying the effluvia of public sewers. Well-dried charcoal, broken to the size of a filbert, was placed in trays in the current of air proceeding from a sewer—it thus acted as an air-filter. The result was most satisfactory; the foul effluvia were arrested and destroyed, and the charcoal, after from nine to twenty months' use, when treated with water, yielded an abundance of alkaline nitrate, a fact which proved that it had caused the oxidation of nitrogen in ammonia and other nitrogenous compounds. The absorbing and oxidizing powers of charcoal were greatly diminished when it was saturated with water, hence; owing to the absorption of moisture, the sieves required changing once in three months. If the charcoal is kept dry, there appears to be no limit to the oxidizing action of this substance. There can be no doubt from these experiments, that, by a proper use of powdered charcoal, the noxious effluvia of drains and sewers—the vehicles of typhoid fever

—may be prevented from entering our dwellings. (*Report to Commissioners of Sewers*, Feb., 1862.)”

Referring to the properties of carbonic oxide, it is stated that—

“Boussingault has lately made the discovery, that this gas, with light carburetted hydrogen, in the proportion together of 3 or 4 per cent., is eliminated by the green parts of vegetables under the influence of water, light and heat. This may arise from the decomposition of carbonic acid in vegetation, not being so complete as it has been hitherto supposed to be. If this observation be confirmed, it will show that while vegetation aids in purifying the air, it leads to the evolution of small quantities of one of the most deadly gases known to chemists; and differing from some other noxious gases in the fact that it cannot be recognized by its odor, or, in the small proportion in which it exists, by any other sensible properties. Aquatic plants and those growing in swampy places, evolve it in greater proportion than those growing on a dry soil (*Cosmos*, Nov. 22, 1861). Is this gaseous poison the secret cause of the unhealthiness of such localities?”

Part 3d presents a concise view of all that is known at the present day in relation to the metals, and the arrangement of their various salts seems to have been specially adapted to the wants of the student of *materia medica*. We need not say that the toxicological properties of lead, copper, arsenic, antimony and mercury are treated of in a way we should have expected from the reputation of one of the authors, and the tests for their presence in organic compounds are fully given. Particular instruction is also furnished in the processes necessary for the detection of the adulteration of drugs. We subjoin a few extracts from this part of the volume, but have not space to quote at a just length the most important portions. The frequency with which arsenic is met with in many substances used by the physician is thus stated:—

“Traces of arsenious acid are not unfrequent in various chemical and pharmaceutical preparations: it has been detected in sulphuric, hydrochloric, nitric, acetic, and phosphoric acids, in phosphate of soda, and in emetic tartar. The preparations of bismuth and copper frequently contain it; and it is not unfrequently found associated with the hydrated oxide of iron, in the ochreous sediments of spring and river waters (page 138). This acid is used in many of the arts, especially in color-making, dyeing, and calico-printing; it is also used in medicine, and in a variety of preparations for the destruction of vermin. It is much employed in the steeping of seed-corn for the purpose of destroying the spores of fungi. In the small quantities in which it is commonly sold to the public it is directed to be colored with indigo or soot, a circumstance which must be borne in mind in searching for it in cases of poisoning. It is a powerful irritant poison, and has destroyed the life of an adult in the small dose of two grains. It is rapidly absorbed into the blood, and is equally fatal whether it is taken by the mouth or applied to a wound.”

A very simple process for the recognition of arsenical greens will be found in the following paragraph:—

“ARSENITE OF COPPER $2(\text{CuO}) \text{AsO}_3$, *Scheele's green*; ACETO-ARSENITE OF COPPER, *Schweinfurth green* $3(\text{CuO}, \text{AsO}_3) + (\text{CuO}, \text{C}_4\text{H}_3\text{O}_3)$ are green pigments much used in the arts. The latter, known also by the name of *Emerald green*, from its rich green color, containing 59 per cent. of arsenious acid. It is much employed in the coloring of paper-hangings and various articles of dress, as well as in the coloring of confectionary. When an alkaline arsenite is mixed with a solution of sulphate of copper, a precipitate of an apple-green color falls (*Scheele's green*), used as a pigment; it is prepared by dissolving 2 parts of sulphate of copper in 44 of hot water, and gradually adding to it a solution of 2 parts of carbonate of potassa and 1 of arsenious acid in 44 of hot water, the whole being well stirred during mixture: the arsenite of copper, in the form of a fine green

powder, is gradually deposited, and is to be washed and dried at 212° . A similar preparation, known under the name of *Schweinfürth green*, is made as follows:—50 lbs. of sulphate of copper and 10 of lime are dissolved in 20 gallons of vinegar, and a boiling-hot aqueous solution of 50 lbs. of arsenious acid quickly stirred into it; the precipitate is dried and reduced to a fine powder. This green pigment, by reason of its being very loosely laid on paper-hangings, is liable to be diffused in the air of a room, and under these circumstances it has in some cases given rise to the usual well-marked symptoms of chronic poisoning. Its employment on articles of dress and confectionery has been attended with more serious consequences. The following is a simple method of detecting arsenic in the colored substance. Cover a portion of the green paper with a solution of ammonia. The green pigment is dissolved and forms a blue solution with the ammonia, owing to the oxide of copper with which the arsenic is combined. Place a few crystals of nitrate of silver in a porcelain capsule, and pour upon them a few drops of the ammoniacal solution. If arsenic is present the crystals will acquire a superficial yellow color by the production of yellow arsenite of silver (see page 443). A small proportion of the green powder, when heated in a reduction-tube, yields a sublimate of octahedral crystals, which may be easily identified as arsenious acid."

Those interested in Photography will find this subject and its latest modifications treated at length and in a thoroughly practical manner in a separate chapter.

One hundred and seventy pages at the close of the volume are devoted to organic chemistry. The authors, apparently, have not given so much attention to this portion of their work as to the other divisions, and the two chapters devoted to animal chemistry might as well have been omitted. Still much new and interesting matter will be found here as well as elsewhere, and all the subjects are treated in a plain and practical manner. The chapters on coloring matters, proximate analysis, fermentation and metamorphosis, and the alkaloids, will be found especially entertaining and instructive. We give below one or two extracts as specimens of style.

"Although plants appear to have generally a power of rejecting noxious ingredients, yet in certain cases, substances of a poisonous nature are taken from the soil by the roots, and are distributed through their tissues. The metals thus absorbed, appear to be deposited there, without injuring the growth or vitality of the plant. We have found by direct experiment that the seeds of mustard and cress, grown on a soil containing the disintegrated slag of old lead-works, took up a sufficient quantity of lead to allow its presence to be readily determined in the grown plants. We also found lead in the ashes of many plants and shrubs, and of the grass growing on lead-slag, in the valleys of the Mendip hills. Care was taken to remove any particles of the soil adhering to the plants. Dr. Cameron states that he invariably found lead in the plants grown near lead-smelting works at Ballycorus, county of Dublin (*Chemical News*, June, 1862, p. 315). Dr. Wilson has made a similar observation; and further, that herbage thus impregnated with lead, may be a cause of lead-poisoning in cattle (*Edinburgh Monthly Medical Journal*, 1852, vol. xiv., p. 386). The question has been raised whether plants can thus imbibe arsenic from the soil; and this is of some importance, inasmuch as arsenical sulphuric acid is largely employed in the manufacture of certain manures. The only recorded instances of the absorption of this mineral, are in some observations made by Dr. Davy and Mr. Horsley. They found that turnips and other vegetables grown on soils on which arsenicated manures had been placed, acquired an impregnation of arsenic (*Philosophical Magazine*, August, 1859, p. 108). Some of the lower kinds of plants (confervæ) readily grow in certain metallic solutions, which are poisonous to animals. A solution of tartar emetic exposed to air becomes speedily covered with confervoid growths of a peculiar kind. Mould-plants are observed to flourish in solutions of tartaric, citric, gallic, and tannic acids, and their compounds, but not in a solution of oxalic acid."

"CONIA. *Conicina* ($C_{15}H_{16}N$). It appears from the experiments which have

been made upon hemlock, that its active principle resides in a volatile and uncrystallizable alkaloid; its properties have been investigated by Geiger, and by Dr. Christison (*Edin. Phil. Trans.*, 1836, p. 383). When the seeds or leaves of hemlock are distilled with water, the fluid which passes over has the odor of the plant, but is not poisonous; but when caustic lime or potassa is previously added to the green seeds or leaves, and these are distilled with water at as low a temperature as possible, the liquid which then passes over is both alkaline and poisonous. When 10 or 12 pounds of the seeds are worked at once, an oily matter comes over at first, which is nearly pure conia, but the greater part of the alkaloid is dissolved in the distilled water; if this be redistilled, it loses a little of its strength; but if previously neutralized by an acid, such as the sulphuric, the poisonous principle becomes fixed, and water alone distills over. The residue consists of sulphate of conia, sulphate of ammonia, and resin, the latter being produced by the decomposition of part of the conia. To obtain the conia, the above residue is digested in a mixture of 2 parts of alcohol and 1 of ether, which leaves the sulphate of ammonia; and then the alcohol and ether being carefully distilled off, the remaining sulphate of conia is heated gently with a little water and caustic potassa, when there is obtained in the receiver a watery solution of conia in the lower part, and floating on this, a layer of nearly pure hydrate of conia, containing a trace of ammonia; the water may be extracted by chloride of calcium, and the ammonia by exposure *in vacuo*.

"Conia thus obtained has the appearance of a colorless volatile oil, lighter than water, of a powerful diffusible odor, somewhat like that of hemlock, and when diluted resembling the smell of mice. It is intensely acrid to the taste. It has a strong alkaline action on reddened litmus and on turmeric. It is readily soluble in diluted acids, which it neutralizes, but its salts have not been crystallized. It is sparingly soluble in water, and combines with about a fourth of its weight of water to form a hydrate.

"Conia is a deadly poison to all animals: it first palsies the voluntary muscles, then the respiratory muscles and the diaphragm, thus producing death by asphyxia. The heart continues to act after other signs of life are extinct. Few poisons equal it in subtlety or swiftness; a drop put into the eye of a rabbit, killed it in nine minutes; three drops, in the same way, killed a strong cat in a minute and a half. Two grains of conia, neutralized with hydrochloric acid, and injected into the femoral vein of a young dog, produced almost instant death; in two seconds, or three at farthest, and without the slightest warning struggle, respiration had ceased, and with it all external signs of life. If conia be present in an extract or other preparation, it may be detected by triturating either the solid or liquid with a solution of potassa, upon which the odor of mice will be strikingly perceptible."

There are many points connected with various subjects throughout the book we should like to have more particularly alluded to, but we have felt assured that we could not more satisfactorily excite a proper interest in it than by quoting from its pages. We took it up thinking we would run over its contents in a few days, but found it so fascinating from its very simplicity, that we were obliged to read it through. We then began to mark such portions as seemed particularly new or interesting, but found that we had occasion to use the pencil on nearly every page, and that all the observations we had noticed in recent scientific papers and journals were here collected and arranged in their proper connection. To show how little the authors have omitted in their investigations, it will be seen, on referring to the index, which is one of the best we have ever seen, that under the generic word *acid* 258 specific names are given. It is not merely as the best text-book for the student which has yet appeared, that we recommend this work, but every physician who desires to inform himself in a few minutes' reading concerning the latest advances in chemical science, should possess himself of it. In conclusion, we would express our obligation to the American publishers for the correct and satisfactory manner in which they have performed their duty.

 THE BOSTON MEDICAL AND SURGICAL JOURNAL.

 BOSTON: THURSDAY, MAY 21, 1863.

CURE OF BRIGHT'S DISEASE BY A MILK DIET.—A writer in the *Bulletin de Thérapeutique* for March, over the signature of F., in an article on this subject, contends that the disorganization of the kidneys known by this name is a secondary affection, dependent upon the albuminuria and caused by it. The primitive disease, he contends, is in the blood itself, and consists in a modification of the qualities of the albumen of the serum, at present not understood, by which it passes through the pores of the vessels. Some plausibility would seem to be given to this theory by the known efficacy of astringents, such as the salts of iron, tannin, &c., in many cases. The writer argues that if the condition of the blood can be changed the disease of the kidneys will be cured. To effect this he strongly recommends a milk diet. From the article, which is too long for us to give entire, we translate the following extract:—

We know that the use of milk as an exclusive diet is a very old remedy for dropsy, whatever may be its cause. Horstius, Hilden, Bontius, Mauriceau, &c., have successively vaunted the efficacy of this treatment, which, like so many other good things in popular use, was neglected until 1831, when M. Chrestien, of Montpellier, brought this remedy to honored notice, and proved that it would be often successful when all other means failed. M. Serres, d'Alais, Claudot, Ossieur, Dieudonné, &c., have since arrived at conclusions entirely confirmatory of those reported by Chrestien, and the *Bulletin de Thérapeutique* has not failed to report with all fidelity all the facts which have been brought forward in favor of this remedy. The articles referred to regarded ascites or anasarca only in a general manner, and as a condition, independently of the cause which produced it; and although we must admit that in these results the dropsy of albuminuria may claim a certain number of cases, it had never been studied in a special manner with reference to a milk diet, up to the time of the very remarkable article of M. Guignier, Member of the Faculty of Montpellier, published in the *Bul. de Thérapeutique*, vol. liii., p. 337, and that published by M. Artigues in the *Jour. de Méd. et Chirurgie Militaire*. M. Guignier applied himself with commendable assiduity to the specification of the cases in which the method of Chrestien was indicated or the reverse. He believed it useful when there exists a condition of plethora, hurtful, on the contrary, when the dropsies are of a passive character, as the patients are too debilitated for it. It would be difficult for us to judge of the value of these distinctions and the possibility of defining them in the greater number of cases; and we can very readily believe that if the dropsies of plethora are best adapted to a milk diet, it is only because they are attacked at an earlier stage and that the constitution of the patient offers then more resources. M. Guignier furthermore does not give the first place to the method of Chrestien, but to that of M. Serres, d'Alais, based as we know on the combination of these three methods: 1st, the diminution of the amount of fluid drank; 2d, a milk diet; 3d, the use of raw onions. He lays down his treatment as follows: to choose the milk with special care as regards its freshness and quality, to change it for a supply from another source when the first fails to agree with the patient; to allow it to be taken *ad libitum* (this practice differs from that of M. Serres); to combine chalk or magnesia with it when it excites acidity; to give up this treatment at the end of twenty days when it fails to produce a marked improvement. M. Guignier, without attaching much importance to the use of raw onions, nevertheless thinks that their diuretic property is useful, and that when the stomach tolerates them they should make a part of this milk regimen.

The facts offered by M. Guignier were of much weight in favor of a milk diet, and while accepting them with some reserve, in view of the possibility when once the dropsy is absorbed of seeing the albuminuria which produced it still remain, yet the impression could not be resisted that milk affords a means of treatment of the greatest value in albuminuria. The observations published by M. Artigues, physician-in-chief of the army, furnish evidence even more decisive in favor of this regimen. He cites, in fact, two cases of complete recovery, without any return of symptoms for three years. Mr. Serres's method was that followed by M. Artigues without any variation;

it is that also which ought, in our opinion, to be followed in the treatment of Bright's disease; it combines, in effect, the advantages of a dry and a milk diet.

Shall we not be able, by this purely dietetic treatment, to cure radically these formidable affections? We do not doubt it, if the treatment is employed in good season, when the effusion is recent and the albuminuria has not existed long enough to have produced in the kidneys the organic lesions which are evidently beyond our resources. But even in this case, where our art is reduced to a deplorable helplessness, the following a strict regimen, of a dry and vegetable diet, but above all a milk diet, will give more favorable results than any medication known as yet. We have, therefore, felt it our duty to call attention to these means, which, besides, are recommended by their perfect harmlessness.

The following gentlemen have been appointed surgeons to assist in the execution of the U. S. Conscrip Act in Massachusetts:—1st District, Dr. Foster Hooper; 2d District, Dr. R. B. Hubbard; 3d District, Dr. Joseph H. Streeter; 4th District, Dr. Henry I. Bowditch; 5th District, Dr. Daniel Perley; 6th District, Dr. John L. Sullivan; 7th District, Dr. D. S. Fogg; 8th District, Dr. O. Martin; 9th District, Dr. E. C. Richardson; 10th District, Dr. Samuel Duncan.

During the year 1862 there were 786 births in Roxbury, Ms.—425 males and 361 females. Of 608 deaths, 58 were from consumption. There was but one death from smallpox.

From the mortality statistics of the General Hospitals at the military post of Gallatin, Tenn., from December 1, 1862, to March 31, 1863, by Wm. A. Brown, in charge of U. S. Hospital No. 5, published in the *Ohio Medical and Surgical Journal*, we learn that during that time there were taken sick, 2,293; returned to duty, 1,140; discharged, 388; died, 561.

The 18th annual meeting of the Ohio State Medical Society will be held at White Sulphur Springs on Tuesday, June 16th next.

The surgeons of all the regiments composing Gen. Granger's Army Corps (near Franklin, Tenn.) have formed themselves into a regular medical association, and their first meeting was held April 25th.

Drs. J. B. Hall and J. W. Mock have been appointed Assistant Physicians to the Longview (Hamilton Co., Ohio) Lunatic Asylum.

VITAL STATISTICS OF BOSTON.

FOR THE WEEK ENDING SATURDAY, MAY 16th, 1863.

DEATHS.

| | Males. | Females. | Total. |
|---|--------|----------|--------|
| Deaths during the week | 36 | 35 | 71 |
| Ave. mortality of corresponding weeks for ten years, 1853—1863, | 34.1 | 34.3 | 68.4 |
| Average corrected to increased population | 00 | 00 | 75.39 |
| Death of persons above 90 | 0 | 0 | 0 |

Mortality from Prevailing Diseases.

| Phthisis. | Croup. | Scar. Fev. | Pneumon. | Variola. | Dysentery. | Typ. Fever. | Diphtheria. |
|-----------|--------|------------|----------|----------|------------|-------------|-------------|
| 18 | 1 | 2 | 7 | 0 | 0 | 0 | 2 |

COMMUNICATIONS RECEIVED.—Proceedings of the Annual Meeting of the Middlesex East District Medical Society.

BOOKS RECEIVED.—The Diseases of Women and Children. By Gunning S. Bedford, A.-M., M.D. New York: W. Wood & Co.

JOURNALS RECEIVED.—Ohio Medical and Surgical Journal, May, 1863.—American Medical Times, vol. vi., No. 20.—Medical and Surgical Reporter, vol. x., No. 2.

DEATHS IN BOSTON for the week ending Saturday noon, May 16th, 71. Males, 36—Females, 35.—Abscess (lumbar), 1—accident, 2—apoplexy, 1—disease of the bowels, 1—congestion of the brain, 2—disease of the brain, 1—bronchitis, 2—cancer, 3—consumption, 18—croup, 1—cyanosis, 1—debility, 1—diarrhoea, 1—diphtheria, 2—dropsy, 1—dropsy of the brain, 3—scarlet fever, 2—gastritis, 1—disease of the heart, 2—infantile disease, 2—jaundice, 1—disease of the kidneys, 2—disease of the liver, 1—cedema of the lungs, 1—inflammation of the lungs, 7—marasmus, 3—necrosis, 1—old age, 1—paralysis, 1—peritonitis, 1—premature birth, 1—scrofula, 1—unknown, 2.

Under 5 years of age, 18—between 5 and 20 years, 6—between 20 and 40 years, 18—between 40 and 60 years, 25—above 60 years, 4. Born in the United States, 37—Ireland, 30—other places, 6.